

## Abstract

A three-phase AC speed adjustable motor relates to the motor speed adjusting technique in the field of electrical engineering. Said three-phase AC speed adjustable motor is composed of an AC motor body and an inverse electromotive force generator which is connected with ends of the three stator windings of the AC motor body, wherein the DC voltage, output voltage and the output phase of the inverse electromotive force generator are variable. Instead of adjusting the speed of a motor by extracting energy from the motor and then returning the extracted energy back to the electric network in prior art, the present invention alter the ideal non-load angular speed to adjust the speed of a motor by applying an inverse electromotive force to the motor to counteract a part of energy of the motor and to control the magnitude of the DC voltage. Compared with the prior art, the stage-change step that energy is extracted from a motor and then returned back to the electric network is avoided, therefore energy is saved and various undesirable influences to the network can be avoided. Its structure is simpler and its construction is easier, so the cost of manufacture and use is greatly reduced.